

CLAIMS:

1. A fuel pump module assembly for a fuel tank in a vehicle comprising:

5 a reservoir adapted to be disposed in the fuel tank;

a fuel pump disposed in said reservoir to pump fuel from the fuel tank to an engine of the vehicle;

a fuel filter disposed in said reservoir and
10 having an inlet fluidly connected to said fuel pump and having a first outlet fluidly connected to the engine and a second outlet; and

a regulating valve assembly disposed in said reservoir and fluidly connected to said second outlet to
15 control fuel supply pressure to the engine.

2. A fuel pump module assembly as set forth in claim 1 including a cover adapted to close an opening in the fuel tank.

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3. A fuel pump module assembly as set forth in claim 2 including a check and relief valve assembly disposed above said reservoir and operatively connected to said cover.

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4. A fuel pump module assembly as set forth in claim 3 wherein said check and relief valve assembly comprises a valve housing having a generally "T" shape.

5 5. A fuel pump module assembly as set forth in claim 4 wherein said check and relief valve assembly comprises a check valve disposed in said valve housing for allowing one-way flow of fuel from said fuel filter to the engine.

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6. A fuel pump module assembly as set forth in claim 5 wherein said check and relief valve assembly comprises a relief valve disposed in said valve housing above said check valve for allowing one-way flow of fuel
15 from the engine into the fuel tank.

7. A fuel pump module assembly as set forth in claim 1 wherein said regulating valve assembly includes a jet pump disposed in said reservoir and fluidly connected
20 to said second outlet to fill said reservoir with fuel.

8. A fuel pump module assembly as set forth in claim 7 including a jet pump barrel extending into a chamber of said reservoir and cooperating with an outlet
25 of said jet pump.

9. A fuel pump module assembly as set forth in claim 1 wherein said regulating valve assembly comprises a valve housing having a passageway with a valve seat, a movable regulating valve disposed in said passageway, and
5 a spring disposed in said passageway to urge said regulating valve toward said valve seat.

10. A fuel pump module assembly as set forth in claim 1 including a pump retainer disposed in a chamber of
10 said reservoir to support said fuel pump therein.

11. A fuel pump module assembly for a fuel tank in a vehicle comprising:

a reservoir adapted to be disposed in the fuel
15 tank and having a chamber therein;

a cover adapted to close an opening in the fuel tank;

a fuel pump disposed in said reservoir to pump fuel from the fuel tank to an engine of the vehicle;

20 a fuel filter disposed in said reservoir and having an inlet, a first outlet, and a second outlet;

a first conduit interconnecting said fuel pump and said inlet of said fuel filter;

a second conduit operatively interconnecting
25 said first outlet of said fuel filter and said cover;

a jet pump disposed in said reservoir and fluidly connected to said second outlet to fill said reservoir with fuel; and

a regulating valve disposed in said reservoir
5 and connected to said jet pump and fluid connected to said second outlet to discharge by-pass fuel to said reservoir and thereby control fuel supply pressure.

12. A fuel pump module assembly as set forth in
10 claim 11 including a check and relief valve assembly disposed above said reservoir and operatively connected to said cover.

13. A fuel pump module assembly as set forth in
15 claim 12 wherein said check and relief valve assembly comprises a valve housing having a generally "T" shape.

14. A fuel pump module assembly as set forth in
claim 13 wherein said check and relief valve assembly
20 comprises a check valve disposed in said valve housing for allowing one-way flow of fuel from said fuel filter to the engine.

15. A fuel pump module assembly as set forth in
25 claim 14 wherein said check and relief valve assembly comprises a relief valve disposed in said valve housing

above said check valve for allowing one-way flow of fuel from the engine into the fuel tank.

16. A fuel pump module assembly as set forth in
5 claim 11 wherein said jet pump includes an outlet
extending into said chamber.

17. A fuel pump module assembly as set forth in
claim 16 including a jet pump barrel extending into said
10 chamber and cooperating with said outlet.

18. A fuel pump module assembly as set forth in
claim 11 wherein said regulating valve comprises a valve
housing having a passageway with a valve seat, a movable
15 valve member disposed in said passageway, and a spring
disposed in said passageway to urge said valve member
toward said valve seat.

19. A fuel pump module assembly as set forth in
20 claim 11 including a pump retainer disposed in said
chamber to support said fuel pump therein.

20. A fuel tank assembly for a vehicle
comprising:

25 a fuel tank;

a reservoir adapted to be disposed in the fuel tank and having a chamber therein;

a cover adapted to close an opening in the fuel tank;

5 a fuel pump disposed in said reservoir to pump fuel from the fuel tank to an engine of the vehicle;

a fuel filter disposed in said reservoir and having an inlet, a first outlet, and a second outlet, said inlet being fluidly connected to said fuel pump;

10 a jet pump disposed in said reservoir and fluidly connected to said second outlet to fill said reservoir with fuel;

a regulating valve disposed in said reservoir and connected to said jet pump and fluidly connected to
15 said second outlet to discharge by-pass fuel to said reservoir and thereby control fuel supply pressure; and

a check and relief valve assembly disposed above said reservoir and operatively connected to said cover, said check and relief valve assembly comprising a check
20 valve for allowing one-way flow of fuel from said fuel filter to the engine and a relief valve disposed above said check valve for allowing one-way flow of fuel from the engine into the fuel tank.